

## Claims

- [c1] 1. An adjustable light converging device, suitable for use in a light source module applied to an optical scan module, wherein the light source module has at least a lamp, the adjustable light converging device comprising:  
a lamp holder, including an arc notch therein for carrying the lamp, wherein the curvature of the arc notch is adjustable; and  
an adjusting member, mounted to the lamp holder to adjust the curvature of the arc notch.
- [c2] 2. The adjustable light converging device according to Claim 1, wherein the light converging device further comprises a reflection member located on a surface along the arc notch to reflect light emitted from the lamp, and the curvature of the reflection member is consequently adjusted when the curvature of the arc notch is adjusted.
- [c3] 3. The adjustable light converging device according to Claim 2, wherein the reflection member is made of bendable material.
- [c4] 4. The adjustable light converging device according to Claim 1, wherein the lamp holder further comprises:  
a first carrying member; and  
a second carrying member hinged over the first carrying member, wherein a space between the first and second carrying members construct the arc notch.
- [c5] 5. The adjustable light converging device according to Claim 4, wherein the adjusting member further comprises a roller wheel which has a second gear structure, and the second carrying member has a first gear structure to be engaged with the second gear structure.
- [c6] 6. The adjustable light converging device according to Claim 1, wherein the lamp holder is made of bendable material, and the lamp holder is bent to form the arc notch, the lamp holder further comprises two rigid stripe members mounted at two sides of the lamp holder parallel to an axis of the lamp.
- [c7] 7. The adjustable light converging device according to Claim 6, wherein the adjusting member comprises:

a sleeve, having a first and a second screw thread on an interior wall at two ends thereof directed opposite to each other, and a third screw thread on an exterior wall thereof;  
 two lead screws, to be threaded into the sleeve via the first and the second screw threads; and  
 a roller, having a fourth screw thread is formed on a periphery thereof, wherein the fourth screw thread is engaged with the third screw thread;  
 wherein the ends of the lead screws are located at the rigid stripe members to mount the adjusting member to the lamp holder.

- [c8] 8. A light source module, suitable for use in an optical scan module, comprising:  
 a lamp; and  
 an adjustable light converging device, comprising:  
 a lamp holder, having an arc notch therein to carry the lamp, wherein the curvature of the arc notch can be adjusted freely; and  
 an adjusting member, mounted to the lamp holder to adjust the curvature of the arc notch.
- [c9] 9. The light source module according to Claim 8, wherein the adjustable light converging device further comprises a reflection member located on a surface along the arc notch to reflect light emitted from the lamp, and the curvature of the reflection member is consequently adjusted when the curvature of the arc notch is adjusted.
- [c10] 10. The light source module according to Claim 9, wherein the reflection member is made of bendable material.
- [c11] 11. The light source module according to Claim 8, wherein the lamp holder further comprises:  
 a first carrying member; and  
 a second carrying member hinged over the first carrying member, wherein a space between the first and second carrying members constructs the arc notch.
- [c12] 12. The light source module according to Claim 11, wherein the adjusting

member further comprises a roller wheel which has a second gear structure, and the second carrying member has a first gear structure to be engaged with the second gear structure.

[c13] 13. The light source module according to Claim 8, wherein the lamp holder is made of bendable material, and the lamp holder is bent to form the arc notch, the lamp holder further comprises two rigid stripe members mounted at two sides of the lamp holder parallel to an axis of the lamp.

[c14] 14. The light source module according to Claim 13, wherein the adjusting member comprises:  
a sleeve, having a first and a second screw thread on an interior wall at two ends thereof directed opposite to each other, and a third screw thread on an exterior wall thereof;  
two lead screws, to be threaded into the sleeve via the first and the second screw threads; and  
a roller, having a fourth screw thread is formed on a periphery thereof, wherein the fourth screw thread is engaged with the third screw thread;  
wherein the ends of the lead screws are located at the rigid stripe members to mount the adjusting member to the lamp holder.

[c15] 15. An optical scan module for scanning a document, comprising:  
a carrier box;  
a light source module, installed in the carrier box to radiate the document to obtain an image light, the light source module comprising:  
a lamp; and  
an adjustable light converging device, comprising:  
a lamp holder, having an arc notch therein to carry the lamp, wherein the curvature arc notch can be adjusted freely; and  
an adjusting member, mounted to the lamp holder to adjust the curvature of the arc notch;  
a reflection mirror set, installed in the carrier along an optical path of the image light;  
an optical lens, located along the optical path after the image light being

reflected from the reflection mirror set; and  
an optical sensor, fixed on a circuit board along the optical path of the image light being transmitted through the optical lens.

[c16] 16. The optical scan module according to Claim 15, wherein the adjustable light converging device further comprises a reflection member located on a surface along the arc notch to reflect light emitted from the lamp, and the curvature of the reflection member is consequently adjusted when the curvature of the arc notch is adjusted.

[c17] 17. The optical scan module according to Claim 16, wherein the reflection member is made of bendable material.

[c18] 18. The optical scan module according to Claim 15, wherein the lamp holder further comprises:  
a first carrying member; and  
a second carrying member hinged over the first carrying member, wherein a space between the first and second carrying members constructs the arc notch.

[c19] 19. The optical scan module according to Claim 18, wherein the adjusting member further comprises a roller wheel which has a second gear structure, and the second carrying member has a first gear structure to be engaged with the second gear structure.

[c20] 20. The optical scan module according to Claim 15, wherein the lamp holder is made of bendable material, and the lamp holder is bent to form the arc notch, the lamp holder further comprises two rigid stripe members mounted at two sides of the lamp holder parallel to an axis of the lamp.

[c21] 21. The optical scan module according to Claim 20, wherein the adjusting member comprises:  
a sleeve, having a first and a second screw thread on an interior wall at two ends thereof directed opposite to each other, and a third screw thread on an exterior wall thereof;  
two lead screws, to be threaded into the sleeve via the first and the second screw threads; and

a roller, having a fourth screw thread is formed on a periphery thereof, wherein the fourth screw thread is engaged with the third screw thread;  
wherein the ends of the lead screws are located at the rigid stripe members to mount the adjusting member to the lamp holder.